

ABSTRACT OF THE DISCLOSURE

The invention concerns a parallel confocal laser microscopy system (2) comprising a VCSEL vertical cavity laser array (23) for emitting light beams, optical means (24) for focusing the light beams onto an object (25) to be observed. The invention is characterized in that a photodetector (22) is arranged behind each VCSEL laser such that the photodetector is capable of receiving a light beam backscattered from said object (25) via the VCSEL laser cavity, said cavity having an opening acting as filtering hole.